

REMARKS

Entry of this amendment and reconsideration of this application are respectfully requested.

Claims 22-54 were rejected under 35 U.S.C. §103(a) for allegedly being unpatentable over Shekhter. Applicants respectfully traverse.

The reduction of zirconium oxide or titanium oxide with a specific particle size with metallic magnesium or calcium particles is not described anywhere in Shekhter. The previously cited passages of Shekhter show that a man skilled in the art would expect completely different behavior of zirconium oxide or titanium oxide because of the different amounts of Gibbs Free Energy. The present application describes for the first time a cost efficient way for producing a specific product with specific requirements in view of the received particle size, BET surface and ignition properties, which are reflected in the invention set forth in the pending claims.

Shekhter provides no hints or suggestions as to how these specific properties could be reached. The examples described therein refer to niobium or tantalum and do not disclose the pyrotechnic behavior.

To reiterate, the main difference between the cited references and the presently claimed invention are the reaction conditions. Shekhter uses gaseous magnesium for the reduction of Niob and/or Tantal oxides. Only one example (Example 18) is given for the reduction of WO_2 , ZrO_2 and V_2O_3 with gaseous magnesium (see Shekhter, col. 20).

Several samples, each approximately 25 grams, of WO_3 , ZrO_2 , and V_2O_3 were reduced individually with gaseous magnesium at 950°C . for 6 hours. The reduction products were leached with dilute sulfuric acid to remove residual magnesium oxide. The product was a black metal powder in each case. The tungsten and zirconium powders had oxygen contents of 5.9 and 9.6 W/W % respectively, including that the metal oxides were reduced to the metallic state.

Solid reducing agents are not contemplated by Shekhter.

In view of the foregoing, the rejection should be withdrawn.

Allowance is respectfully requested.

The Commissioner is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 50-0624, under Order No. NY-DNAG-313-US.

Respectfully submitted

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